

**WHAT IS CLAIMED IS:**

1. A method of forming a silicon oxide layer comprising the steps of:
  - providing two frequency excitation plasma CVD device, the device having a susceptor electrode and a high frequency electrode;
  - placing the substrate on the susceptor electrode;
  - applying a high frequency electric power on the high frequency electrode and the susceptor electrode respectively; and
  - forming a silicon oxide layer on the substrate by generating plasma with using a reaction gas in which a flow ratio of the mixing gas of monosilane and nitrous oxide is 10 to 50%.
2. The method according to claim 1, wherein the two frequency excitation plasma CVD device comprises;
  - a first high frequency power supply;
  - a high frequency electrode connected to the a first high frequency power supply;
  - a matching box toward the high frequency electrode having a matching circuit obtaining a matching of impedance between the first high frequency power supply and high frequency electrode;
  - a second high frequency power supply;
  - a susceptor electrode connected to the second high frequency power supply opposing the high frequency electrode and supporting a substrate; and
  - a matching box toward the susceptor electrode having a matching circuit obtaining a matching of impedance between the second high frequency power supply and susceptor electrode,

wherein one electrode among at least two electrodes which constitute at least tuning condenser in the matching circuit of the matching box toward the high frequency electrode is the high frequency electrode.

3. The method according to claim 1, wherein the flow ratio of nitrous oxide to monosilane is 10 or more.
4. The method according to claim 1, wherein other gas among the reaction gas includes a gas selected from the group consisting of helium, hydrogen, xenon, oxygen, argon, nitrogen and a mixing thereof.
5. The method according to claim 2, wherein a frequency of high frequency electric power applied to the high frequency electrode is in range of 13.56MHz to 100MHz and a frequency of high frequency electric power applied to the susceptor electrode is in range of 50kHz to 1.6MHz.
6. The method according to claim 2, wherein a side wall of a housing consisting of a conductive material in the matching box toward the high frequency electrode is non-parallel with a feed wire, the housing stores the feed wire providing the high frequency electrode with the high frequency electric power of the first high frequency power supply through the matching circuit and the matching circuit.
7. A method of manufacturing a thin film transistor comprising the step of:  
forming a gate insulator and an interspacing insulator of the thin film transistor with the silicon oxide layer obtained by the method of forming the silicon oxide layer described in Claim 1.